

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

Claims 1-29 (canceled).

Claim 30 (currently amended): A method of manufacturing a Ta sputtering target, comprising the steps of:

forming a Ta ingot or billet having a predetermined diameter by melting and casting a Ta raw material having a purity of 4N5 (99.995%) or greater; cold extend forging the ingot or billet such that the predetermined diameter is reduced, and after said cold extend forging step, recrystallization annealing the ingot or billet a first time at a temperature of 1373K to 1673K; after said cold extend forging and first recrystallization annealing steps, cold mix forging the ingot or billet and then recrystallization annealing the ingot or billet a second time at a temperature of 1373K to 1673K; and after said cold mix forging and second recrystallization annealing steps, further cold mix forging ~~or rolling~~ the ingot or billet, and thereafter, conducting additional recrystallization annealing of the ingot or billet at a temperature between a recrystallization starting temperature and 1373K; an average crystal grain diameter of the target being made to be a fine crystal grain size of 80  $\mu\text{m}$  or less and the target being made to have no uneven

macrostructure in the form of streaks or aggregates on a surface of the target and inside of the target.

Claim 31 (canceled).

Claim 32 (currently amended): A method according to claim 30, wherein said additional recrystallization annealing conducted after said further cold mix forging ~~or rolling~~ step is conducted at a temperature of 1173K.

Claims 33-37 (canceled).

Claim 38 (currently amended): A method according to claim [37] 32, wherein said fine crystal grain size of the sputtering target is 30 to 60 $\mu$ m.

Claim 39 (previously presented): A method according to claim 30, wherein said melting of the Ta raw material in said forming step is electron beam melting.

Claim 40 (previously presented): A method according to claim 39, wherein the Ta ingot or billet produced by said forming step has primary crystal grains of a diameter of roughly 50mm.

Claim 41 (canceled).

Claim 42 (currently amended): A method according to claim [41] 30, wherein said cold mix forging and second recrystallization annealing steps completely eliminate all heterophase and irregular crystal grains from the Ta ingot or billet.

Claim 43 (canceled).

Claim 44 (currently amended): A method according to claim [43] 42, further comprising, after said additional recrystallization annealing step, the steps of cold rolling the Ta ingot or billet, and thereafter, conducting recrystallization annealing of the Ta ingot or billet for a fourth time at a temperature between a recrystallization starting temperature and 1373K.

Claim 45 (previously presented): A method according to claim 44, further comprising, after said fourth recrystallization annealing step, the step of forming a sputtering target from the Ta ingot or billet such that said target has an average crystal grain diameter of a fine crystal grain size of 80  $\mu\text{m}$  or less and has no uneven macrostructure in the form of streaks, aggregates, and wrinkle shaped defects on a surface of the target and inside of the target due to the previous elimination of all heterophase and irregular crystal grains from the Ta ingot or billet.

Claim 46 (new): A method according to claim 30, wherein the diameter of the ingot or billet is unchanged during said cold mix forging step.